Jakarta International School

8th Grade – AG1

Practice Test - Blue

Unit 1: Solving Linear Equations

Name:

_____

Date:

_____

Score: $\overline{22}$

Goal 1: Students understand the meanings of operations and how they relate to one another, especially as a means to solve equations and evaluate expressions.

Clearly show required work. Check Carefully!

Solve each equation. Show your work and check your solutions. (3 points per problem)

1. $5x + 2 = 3x + (8x + 2)$	**2.** $-5x + 3(2x + 1) = x + 3$

3. $\dfrac{1}{3}(2m+3)+\dfrac{1}{4}(3m+5)=\dfrac{1}{2}(m-1)$

4. Solve for E if $I=\dfrac{EB}{R}+EB$ (2 points)

5. $\dfrac{x-2}{4}-\dfrac{3x+6}{8}=-2$

6. Solve the inequality and graph its solution: $-6x < 36$ (2 points)

7. Let $y_1 = \dfrac{x-1}{x+1}$. Let y_2 by the simplified expression obtained by replacing x in y_1 by $\dfrac{x}{3}$. Let y_3 be the simplified expression obtained by replacing x in y_2 by $\dfrac{x}{3}$, and so forth. Evaluate y_4 when $x = 0$ (2 points)

8. The operation * is defined for non-zero integers as follows: a * b = 1/a + 1/b. If a + b = 10 and a x b = 20, what is the value of a * b? Express your answer as a common fraction.   (2 points)

9. Given that a ⋆ b = a^b – b^a, and a▽b = (a - b)(a – b), what is the value of a ⋆ (a▽b) if a = 4 and b = 2?   (2 points)